

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

## PCT

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/GB2005/000126

International filing date (day/month/year)  
14.01.2005

Priority date (day/month/year)  
23.01.2004

International Patent Classification (IPC) or both national classification and IPC  
F04C18/16, F04C25/02, F04D19/04

Applicant  
THE BOC GROUP PLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
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International application No.  
PCT/GB2005/000126

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2005/000126

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	10-18
	No: Claims	1-9
Inventive step (IS)	Yes: Claims	10-18
	No: Claims	1-9
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**WRITTEN OPINION OF THE  
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AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/GB2005/000126

**Re Item V.**

Reference is made to the following documents:

D1 : DE 198 20 622 A1 (FRIEDEN, PETER) 11 November 1999 (1999-11-11)

D2 : GB 2 030 227 A (KLAHEY E; BEYELER J) 2 April 1980 (1980-04-02)

D3 : US 5 352 097 A (ITOU ET AL) 4 October 1994 (1994-10-04)

- 1 Preliminary remarks concerning the clarity of the claims (Art 6 PCT)
  - a. From the description and more particularly from the problem to be solved (page 1, lines 13-31), it is clear that the following features are essential to the definition of the invention:
    - (1) the screw pump is used for evacuating a chamber/a tool and is therefore a screw vacuum pump;
    - (2) the screw vacuum pump backs two other vacuum pumps.

Since claims 1-9 do not contain these features they do not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any (independent) claim must contain all the technical features essential to the definition of the invention.
  - b. Contrary to what is described in the description (page 2, lines 8-15; page 5, lines 4-8), it is not clear from the actual wording of the claims 1-18 that the flow paths are isolated the one from the other.
  - c. Claims 1-10 are not supported by the description as required by Article 6 PCT, as their scope is broader than justified by the description and drawings. The reasons therefor are the following: a "plurality" of flow paths (see claim 1) is not limited to two flow paths while the description (page 1, lines 13-31) limits the number of flow paths to two.
  - d. The features of claims 8 and 18 are not related to the screw pump or screw pump

arrangement itself but to a particular use that is made of the screw pump arrangement. Hence these features do not limit the scope of protection of claims 8 and 18.

**2 INDEPENDENT CLAIM 1**

Taking into account the various lacks of clarity mentioned here above, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parentheses applying to this document): a screw vacuum pump with a plurality (namely two) flow paths having respective fluid inlets (fig 1, ref 16).

The documents D2 (fig 1, ref 12) and D3 (fig 1, ref 10 and 20) also disclose a screw vacuum pump with a plurality (respectively four and two) of flow paths and inlets.

Hence the subject-matter of independent claim 1 is not new.

The subject-matter of claim 1 and all dependent claims is industrially applicable (Art 33(4) PCT).

**3 DEPENDENT CLAIMS 2-9**

Dependent claims 2-9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT) as the features that they disclose are already disclosed in the prior art documents taken alone or in combination (see documents in the ISR and relevant passages).

**4 DEPENDENT CLAIMS 10-18**

The combination of the features of dependent claims 10 and 11 (amended accordingly to point 1 here above) are neither known from, nor rendered obvious by, the available prior art. The reasons are as follows: the combination of features of these claims, with corresponding effects, is neither known from, nor rendered

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